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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,252	04/15/2004	Christian Jackson	IJ0056USNA	8128
23906 7590 06/15/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER MARTIN, LAURA E	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 06/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,252

Applicant(s)

JACKSON ET AL.

Examiner

Laura E. Martin

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2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-10, 12, 13, 15, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-10, 12, 13, 15, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 8 and 9 are objected to because of the following informalities:

claims 8 and 9 are dependent on cancelled claim 7. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6, 8, 9, 13, 15, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihira et al. (US 20020033862) in view of Silverbrook et al. (US 6443555).

Yoshihira et al. discloses the following claim limitations:

As per claim 1, Yoshihira et al. teaches a method of inkjet printing a substrate comprising steps of providing an ink jet printer (figure 1, element 1000) that is responsive to digital data signals [0040], said printer being equipped with a printhead array which is fixed in position "fixed array" (in figure 2, nozzle arrays on cartridges 20K, 20C, 20M, and 20Y are fixed by carriage 1002) and which ejects droplets of about 1-2 pL [0038]; loading the printer with the substrate to be printed [0076]; loading the printer with the color ink jet set (figure 2, elements 20K, 20C, 20M, 20Y) comprising a cyan ink having a vehicle and at least about 3.5 percent by weight and up to about 8 percent of a

soluble cyan dye, a magenta ink having a vehicle and at least about 5.0 percent by weight and up to about 10 percent of a soluble magenta dye, and a yellow ink having a vehicle and at least 4.3 percent by weight and up to about 11.5 percent of a soluble yellow dye [0053]; moving the substrate past the printhead array and printing on the substrate using the inkjet ink set in response to the digital data signals [0033].

As per claim 2, Yoshihira et al. teaches the inks of the ink set having a viscosity of less than 7 cps [0056].

As per claims 3 and 6, Yoshihira et al. teaches the ink set further comprising a black ink (figure 2, element 20K).

As per claim 5, Yoshihira et al. teaches the ink set having an aqueous vehicle [0085].

As per claim 8, Yoshihira et al. teaches the droplets being about 2 pL [0038].

As per claim 9, Yoshihira et al. teaches the ink set having a cyan ink of at least about 4.25 percent by weight, a magenta ink of at least about 5.1 percent by weight and a yellow ink of at least about 6.1 percent by weight [0053].

As per claim 15, Yoshihira et al. teaches the ink set having a cyan ink of at least about 6.1 percent by weight, a magenta ink of at least about 6.9 percent by weight and a yellow ink of at least about 8.9 percent by weight [0053].

Yoshihira et al. does not disclose the following claim limitations:

As per claim 1: a printhead array in a fixed position.

As per claim 13: droplets of about 1 pL.

As per claim 21: printing on the substrate is accomplished in one pass.

Silverbrook et al. discloses the following claim limitations:

As per claim 1: a printhead array in a fixed position (column 1, lines 15-33).

As per claim 13: droplets of about 1 pL (column 8, lines 8-15).

As per claim 21: printing on the substrate is accomplished in one pass (figure 12, element 41) – the media undergoes only one pass, as the printhead is stationary.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of inkjet printing taught by Yoshihira et al. with the disclosure of Silverbrook et al. in order to increase printing speeds.

As per claim 22: Yoshihira et al. as modified discloses the claimed invention except for the moving substrate is fed at a rate of 6 cm/s. It would have been obvious to one having ordinary skill in the art at the time the invention was made to keep a steady feeding rate, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesh*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihira et al. (US 20020033862) and Silverbrook et al. (US 6443555), and further in view of Shimomura et al. (US 5866638).

Yoshihira et al. teaches the ink set of claim 1; however, it does not disclose the cyan dye being C.I. AB9 dye, the magenta dye being C.I. AR52 dye, and the yellow dye being C.I. AY23 dye.

Shimomura et al. teaches a cyan dye being C.I. AB9 dye, the magenta dye being C.I. AR52 dye, and the yellow dye being C.I. AY23 dye (column 26, lines 15-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set of Yoshihira et al. as modified with the disclosure of Shimomura et al. in order to create a higher quality ink set.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihira et al. (US 20020033862) and Silverbrook et al. (US 6443555), and further in view of Shi et al. (US 6641257).

Yoshihira et al. teaches the ink set of claim 1, as well as the ink set having a cyan ink of at least about 4.25 or 6.1 percent by weight, a magenta ink of at least about 5.1 or 6.9 percent by weight and a yellow ink of at least about 6.1 or 8.9 percent by weight.

Shi et al. also teaches an ink set having a cyan ink of at least about 4.25 or 6.1 percent by weight (column 6, lines 3-32), a magenta ink of at least about 5.1 or 6.9 percent by weight (column 6, lines 3-32), and a yellow ink of at least about 6.1 or 8.9 percent by weight (column 6, lines 3-32). Shi et al. discloses higher and wider ranges of colorant in percent by weight.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set of Yoshihira et al. as modified with the disclosure of Shi et al. in order to create a higher quality ink set.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihira et al. (US 20020033862) and Silverbrook et al. (US 6443555), and further in view of Shingai et al. (US 6350019).

Yoshihira et al. teaches the ink set of claim 1; however, it does not disclose droplets of 1.5 pL.

Shingai et al. teaches droplets of 1.5 pL (column 12, lines 64-66).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set of Yoshihira et al. as modified with the disclosure of Shingai et al. in order to create a higher quality printed image.

Response to Arguments

Applicant's arguments filed 5/1/07 have been fully considered but they are not persuasive.

Examiner thanks applicant for noting that Arita et al. is in fact Shi et al. Claim 1 has been amended to include information from claim 7 and claim 14; however, the examiner still maintains the rejection of Yoshihira et al. in view of Silverbrook et al. for this independent claim. Yoshihira et al., in [0053] of the specification claims that the colorant is within a range of 1-10% by weight, or more specifically, 2-8% by weight. While the exact values of colorant taught in the claims are not used in the examples of Yoshihira et al, the fact that it is stated that the colorant can be used in either of those

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ranges proves that colorant used in those ranges (and thus the ranges taught in the claims) are well known in the art.

Applicant argues that there is no motivation to modify Yoshihira et al. with Silverbrook et al. but the examiner respectfully disagrees. It is well known in the art to use different types of printheads, as well as different types of inks. There is no reason why the inks taught in Yoshihira et al. could not be used in a fixed array printhead, such as the one taught by Silverbrook et al. If there is no mention to the type of ink Silverbrook et al. used, it can be assumed that any liquid ink can be used in the printhead.

While the rejection of Shi et al. still stands, the examiner would like to point out that claims 9 and 15 also read on Yoshihira et al. in the way the claims are written. The range taught by Yoshihira et al. also encompasses these taught values.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin


6/8/07
MANISH S. SHAH
PRIMARY EXAMINER

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~~PRIMARY EXAMINER~~